



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,503	07/23/2002	Morimitsu Nakamura	9170-US-PA	4862
31561	7590	06/18/2004	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			LAWRENCE JR, FRANK M	
			ART UNIT	PAPER NUMBER
			1724	
DATE MAILED: 06/18/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/064,503

Applicant(s)

NAKAMURA ET AL.

Examiner

Frank M. Lawrence

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 May 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,6 and 8-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 is/are allowed.
- 6) ☒ Claim(s) 1,4,6,8-13 and 15-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: Paragraph [0021] should be amended to remove “link” references.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4, 6, 8-13 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Ojo et al. (6,409,800).
4. Ojo et al. '800 teach a system for removing impurities from raw material air used for cryogenic separation, comprising contacting the air with a first adsorbent layer for selectively removing water, a second adsorbent layer for removing nitrogen oxides and hydrocarbons, and a third layer between the first and second layers for removing carbon dioxide. The second layer comprises a composite of A and X zeolites that are each 50-100% exchanged with ions that can include Ca, Mg, and combinations of these, which are specifically listed as sample exchange bases or salts (see col. 10, lines 4-20, claims 1, 3, 12, 27). An adsorption cylinder for containing the adsorbent layers is an inherent part of the system.

*Allowable Subject Matter*

5. Claim 14 is allowed.

6. The following is an examiner's statement of reasons for allowance: Claim 14 is allowed because it includes the limitation that the second adsorbent is "without an X zeolite" which is not disclosed in the prior art of record in combination with the other limitations. Claim 14 distinguishes over the other prior art of record because, while disclosing the possibility of exchanging with Mg or Ca at 0-100%, the references do not disclose the claimed range with sufficient specificity to anticipate or make it obvious, especially in light of applicant's showing of unexpected results for the range starting at 5%. Also, other than Ojo et al., the prior disclosures list every possible exchangeable ion, making it unobvious to only select Mg at the specific exchange level as in the instant claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Response to Arguments*

7. Applicant's arguments filed May 14, 2004 have been fully considered but they are not persuasive. Applicant argues that Claims 1, 4 and 9 are not anticipated by the Ojo et al. reference because the instant claims recite either an A or an X zeolite while the Ojo patent discloses only a composite zeolite containing both A and X, while also teaching away to using each separately. It is submitted that this distinction is correct, however the instant claims contain the recitation that the "second adsorbent comprises" either an X zeolite or an A zeolite. The

Art Unit: 1724

word “comprises” does not exclude the presence of any other materials in the adsorbent layer including other zeolite types, therefor the rejection is maintained.

8. With respect to new claims 12-18, applicant argues that Ojo et al. does not anticipate the new limitations that the X zeolite contains merely a trace of A zeolite as an impurity, or that the second adsorbent comprises an A zeolite without an X zeolite. The examiner agrees that the second new limitation (in claim 14) is not disclosed in Ojo and the claim is allowable. Claims 12, 13 and 15-18 are still anticipated by Ojo because they recite that the second adsorbent “comprises an X zeolite... wherein the X zeolite contains merely a trace of A zeolite as an impurity.” This is not allowable in the same manner as claim 14 because claim 14 recites that the entire adsorbent has no X zeolite, while claims 12, 13 and 15-18 recite that only the X-zeolite portion of the second adsorbent contains merely a trace of A zeolite. Claims 12, 13 and 15-18 would also be allowable if amended to recite that “the second adsorbent contains merely a trace of A zeolite as an impurity” rather than “the X zeolite.”

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1724

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank M. Lawrence  
Primary Examiner  
Art Unit 1724

fl



6-14-04